

FIG. 1

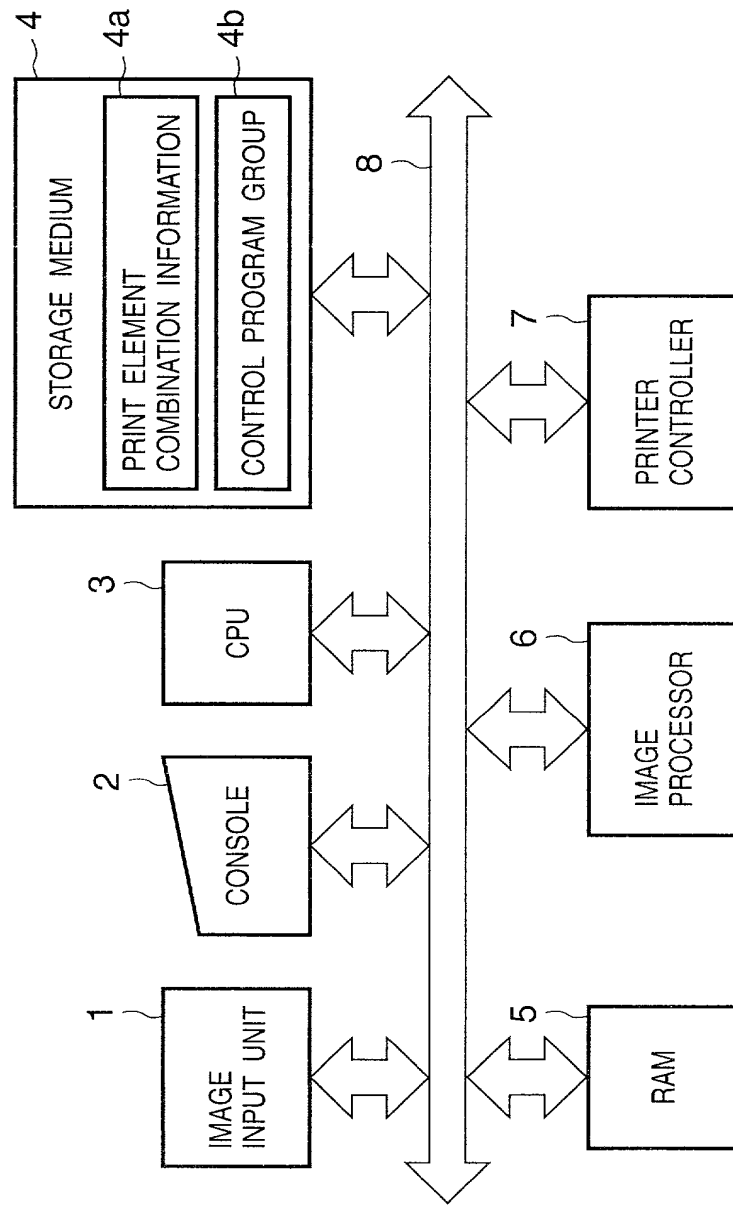
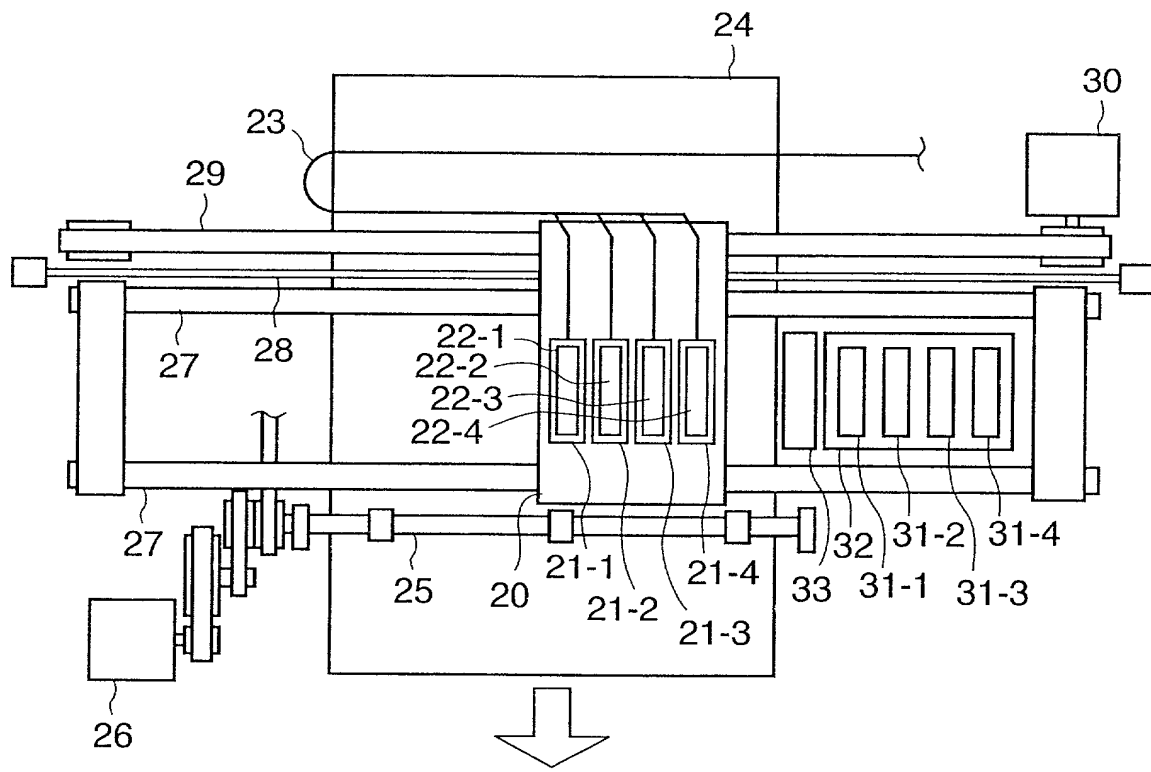


FIG. 2



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**FIG. 3**

L...LEFT R...RIGHT

GRAY SCALE VALUE	DENSITY GRADIENT INFORMATION	No.	a-1-1 L	a-1-1 R	a-2-1 L	a-2-1 R	a-3-1 L	a-3-1 R	a-4-1 L	a-4-1 R	b-1-1 L	b-1-1 R	b-2-1 L	b-2-1 R	b-3-1 L	b-3-1 R	b-4-1 L	b-4-1 R
1	LU	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1		2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1		3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1		4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	RU	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1		6	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
1		7	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
1		8	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
1	LL	9	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
1		10	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
1		11	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
1		12	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
1	RL	13	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
1		14	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
1		15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
1		16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	LU	17	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
2		18	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
2		19	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
2		20	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
2	RU	21	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
2		22	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
2		23	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
2		24	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
2	LL	25	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
2		26	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
2		27	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
2		28	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
2	RL	29	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
2		30	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0
2		31	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
2		32	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
2	AV	33	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
2		34	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0
2		35	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
2		36	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2		37	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
2		38	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0
2		39	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0
2		40	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
3	LU	41	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
3		42	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0
3		43	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0
3		44	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
3	RU	45	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0
3		46	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0
3		47	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0
3		48	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0
3	LL	49	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0
3		50	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0
3		51	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0
3		52	0	0	0	0	0	0	0	1	1	0	0	1	0	0	1	0
3	RL	53	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
3		54	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0
3		55	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1
3		56	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
3	AVE	41	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
3		42	0	0	1	0	1	1	0	0	0	0	1	0	0	0	0	0
3		43	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0
3		44	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0

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**FIG. 4**

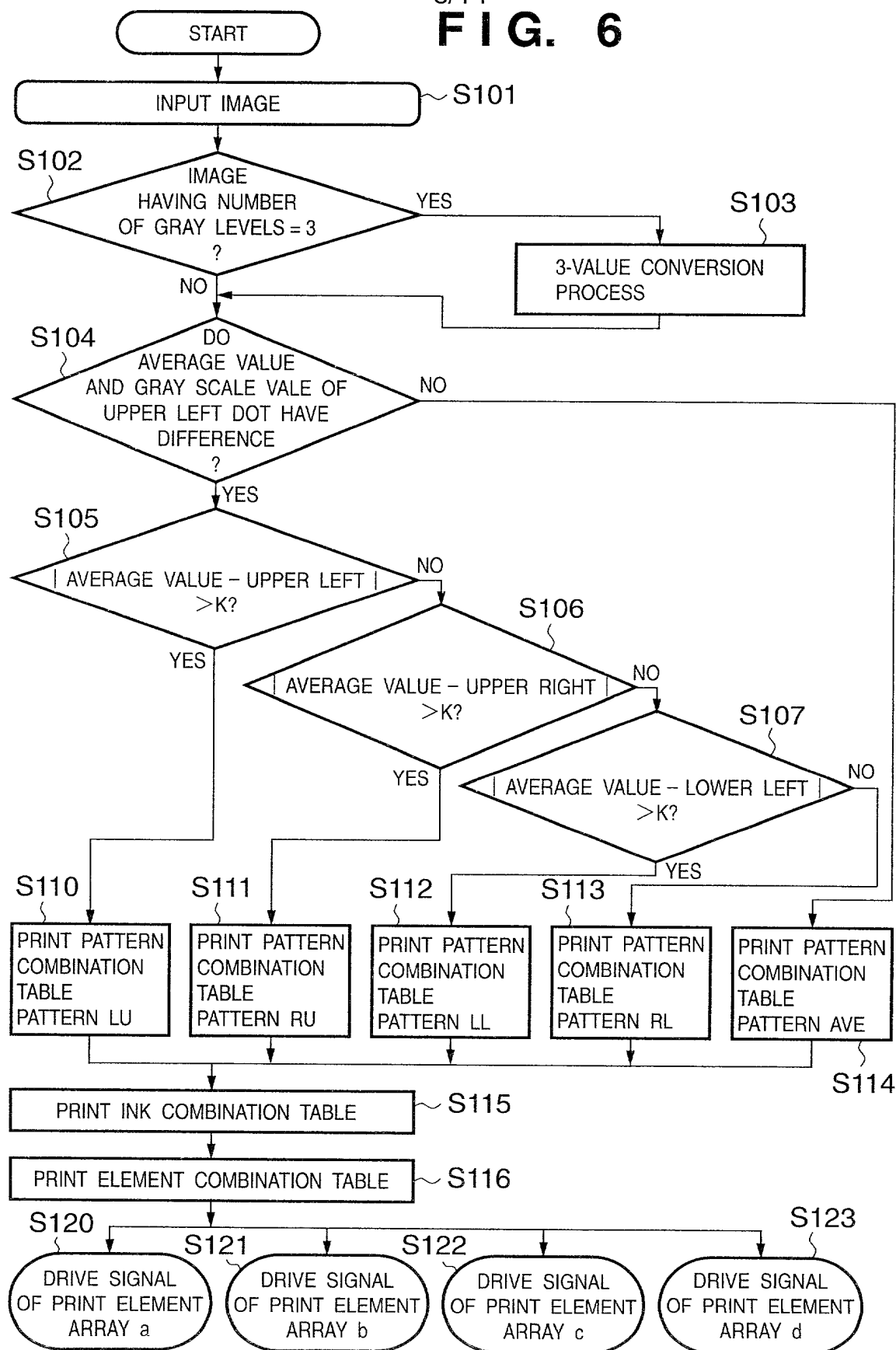
L...LEFT R...RIGHT

GRAY SCALE VALUE	DENSITY GRADIENT INFORMATION	No.	a-1-1 L	a-1-1 R	a-2-1 L	a-2-1 R	a-3-1 L	a-3-1 R	a-4-1 L	a-4-1 R	b-1-1 L	b-1-1 R	b-2-1 L	b-2-1 R	b-3-1 L	b-3-1 R	b-4-1 L	b-4-1 R
4	LU	45	1	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0
4		46	0	0	1	0	1	0	1	0	0	0	0	1	0	0	0	0
4		47	1	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0
4		48	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1
4	RU	49	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0
4		50	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0
4		51	0	1	0	0	0	1	0	1	0	0	0	0	1	0	0	0
4		52	0	1	0	1	0	0	0	1	0	0	0	0	0	0	1	0
4	LL	53	0	1	0	0	0	0	0	0	1	0	1	0	1	0	0	0
4		54	0	0	0	1	0	0	0	0	0	0	1	0	1	0	1	0
4		55	0	0	0	0	0	1	0	0	1	0	0	0	1	0	1	0
4		56	0	0	0	0	0	0	0	1	1	0	1	0	0	0	1	0
4	RL	57	1	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0
4		58	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	1
4		59	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	1
4		60	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	1
4	AVE	61	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0
4		62	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0
4		63	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0
4		64	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5	LU	65	1	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0
5		66	0	1	1	0	1	0	1	0	0	0	0	1	0	0	0	0
5		67	1	0	0	1	1	0	1	0	0	0	0	0	0	1	0	0
5		68	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	1
5	RU	69	0	1	0	1	0	1	1	0	1	0	0	0	0	0	0	0
5		70	1	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0
5		71	0	1	1	0	0	1	0	1	0	0	0	0	1	0	0	0
5		72	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	0
5	LL	73	0	1	0	0	0	0	0	0	1	0	1	0	1	0	0	1
5		74	0	0	0	1	0	0	0	0	0	1	1	0	1	0	1	0
5		75	0	0	0	0	0	1	0	0	1	0	0	1	1	0	1	0
5		76	0	0	0	0	0	0	0	1	1	0	1	0	0	1	1	0
5	RL	77	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	0
5		78	0	0	1	0	0	0	0	0	1	0	0	1	0	1	0	1
5		79	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
5		80	0	0	0	0	0	0	1	0	0	1	0	1	1	0	0	1
5	AVE	81	1	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0
5		82	0	0	0	0	0	1	1	0	0	0	0	1	0	0	1	0
5		83	1	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0
5		84	0	1	1	0	0	0	1	0	0	0	0	0	1	0	0	1
6	LL	85	1	0	1	0	1	0	0	1	0	1	1	0	0	0	0	0
6		86	0	1	1	0	1	0	1	0	0	0	0	1	1	0	0	0
6		87	1	0	0	1	1	0	1	0	0	0	0	0	0	1	1	0
6		88	1	0	1	0	0	1	1	0	1	0	0	0	0	0	0	1
6	RU	89	0	1	0	1	0	1	1	0	1	1	0	0	0	0	0	0
6		90	0	0	0	1	0	1	0	1	0	0	1	1	0	0	0	0
6		91	0	1	1	0	0	1	0	1	0	0	0	0	1	1	0	0
6		92	0	1	0	1	1	0	0	1	0	0	0	0	0	0	1	1
6	LL	93	0	1	1	0	0	0	0	0	1	0	1	0	1	0	0	1
6		94	0	0	0	1	1	0	0	0	0	1	1	0	1	0	1	0
6		95	0	0	0	0	0	1	1	0	1	0	0	1	1	0	1	0
6		96	1	0	0	0	0	0	0	1	1	0	1	0	0	1	1	0
6	RL	97	1	1	0	0	0	0	0	0	0	1	0	1	0	1	1	0
6		98	0	0	1	1	0	0	0	0	1	0	0	1	0	1	0	1
6		99	0	0	0	0	1	1	0	0	0	1	1	0	0	1	0	1
6		100	0	0	0	0	0	0	1	1	0	1	0	1	1	0	0	1
6	AVE	101	1	0	0	1	1	0	0	0	0	1	0	0	1	0	0	1
6		102	0	0	1	0	0	1	0	0	1	0	1	0	0	0	1	0
6		103	1	0	0	0	1	0	0	1	1	0	1	0	0	1	0	0
6		104	0	1	1	0	0	0	1	0	0	1	0	0	1	0	0	1

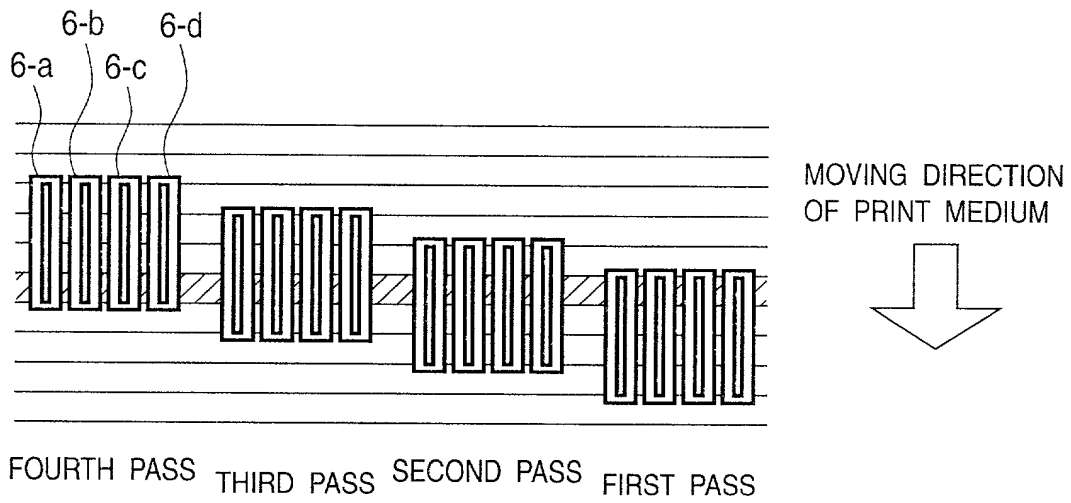
FIG. 5

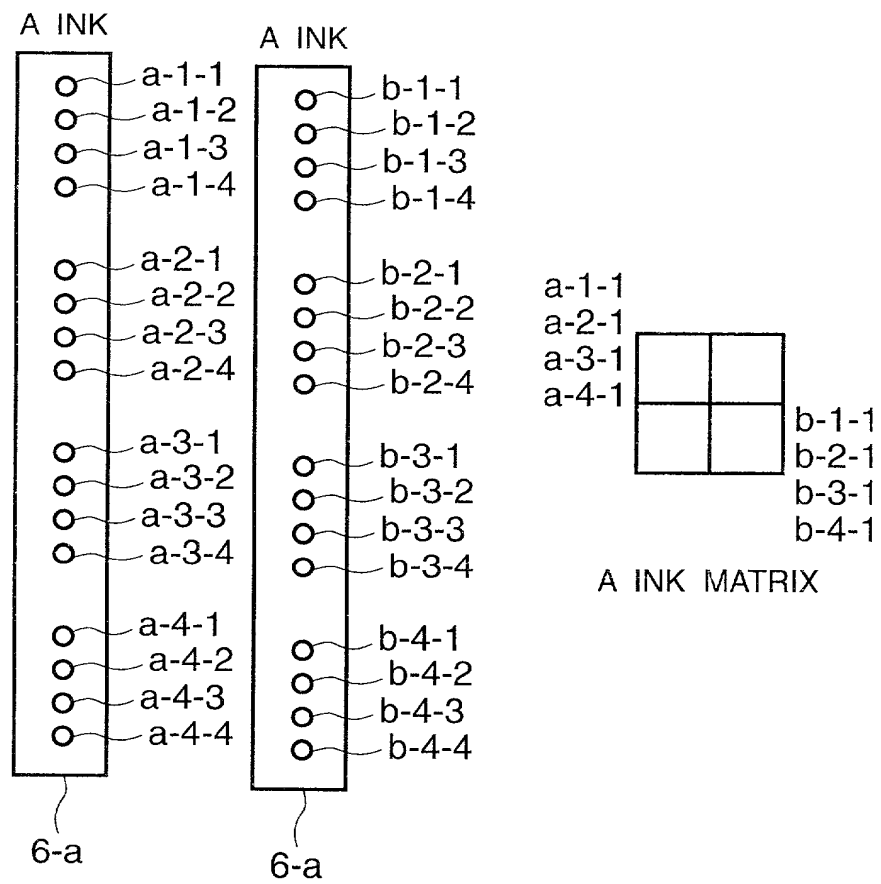
L...LEFT      R...RIGHT

GRAY SCALE VALUE	DENSITY GRADIENT INFORMATION	No.	a-1-1 L	a-1-1 R	a-2-1 L	a-2-1 R	a-3-1 L	a-3-1 R	a-4-1 L	a-4-1 R	b-1-1 L	b-1-1 R	b-2-1 L	b-2-1 R	b-3-1 L	b-3-1 R	b-4-1 L	b-4-1 R
7	LU	105	1	0	1	0	1	0	1	1	0	1	1	0	0	0	0	0
7		106	1	1	1	0	1	0	1	0	0	0	0	1	1	0	0	0
7		107	1	0	1	1	1	0	1	0	0	0	0	0	0	1	1	0
7		108	1	0	1	0	1	1	1	0	1	0	0	0	0	0	0	1
7	RU	109	0	1	0	1	0	1	1	1	1	1	0	0	0	0	0	0
7		110	1	1	0	1	0	1	0	1	0	0	1	1	0	0	0	0
7		111	0	1	1	1	0	1	0	1	0	0	0	0	1	1	0	0
7		112	0	1	0	1	1	1	0	1	0	0	0	0	0	0	1	1
7	LL	113	0	1	1	0	0	0	0	0	1	0	1	0	1	0	1	1
7		114	0	0	0	1	1	0	0	0	1	1	1	0	1	0	1	0
7		115	0	0	0	0	0	1	1	0	1	0	1	1	1	0	1	0
7		116	1	0	0	0	0	0	0	1	1	0	1	0	1	1	1	0
7	RL	117	1	1	0	0	0	0	0	0	0	1	0	1	0	1	1	1
7		118	0	0	1	1	0	0	0	0	1	1	0	1	0	1	0	1
7		119	0	0	0	0	1	1	0	0	0	1	1	1	0	1	0	1
7		120	0	0	0	0	0	0	1	1	0	1	0	1	1	0	0	1
7	AVE	121	1	0	0	1	1	0	0	1	0	1	0	0	1	1	0	1
7		122	0	1	1	0	0	1	1	0	0	1	0	1	0	0	1	0
7		123	1	0	0	1	1	0	0	1	1	0	1	0	0	1	0	0
7		124	0	1	1	0	0	1	1	0	0	1	0	0	1	0	0	1
8	LU	125	1	0	1	0	1	0	1	1	0	1	1	0	1	0	0	0
8		126	1	1	1	0	1	0	1	0	0	0	0	1	1	0	1	0
8		127	1	0	1	1	1	0	1	0	1	0	0	0	0	1	0	0
8		128	1	0	1	0	1	1	1	0	1	0	1	0	0	0	0	1
8	RU	129	0	1	0	1	0	1	1	1	1	1	0	1	0	0	0	0
8		130	1	1	0	1	0	1	0	1	0	0	1	1	0	1	0	0
8		131	0	1	1	1	0	1	0	1	0	0	0	0	1	1	0	1
8		132	0	1	0	1	1	1	0	1	0	1	0	0	0	0	1	1
8	LL	133	0	1	1	0	1	0	0	0	1	0	1	0	1	0	1	1
8		134	0	0	0	1	1	0	1	0	1	1	1	0	1	0	1	0
8		135	1	0	0	0	0	1	1	0	1	0	1	1	1	0	1	0
8		136	1	0	1	0	0	0	0	1	1	0	1	0	1	1	1	0
8	RL	137	1	1	0	1	0	0	0	0	0	1	0	1	0	1	1	1
8		138	0	0	1	1	0	1	0	0	1	1	0	1	0	1	0	1
8		139	0	0	0	0	1	1	0	1	0	1	1	1	0	1	0	1
8		140	0	1	0	0	0	0	1	1	0	1	0	1	1	1	0	1
8	AVE	141	1	0	0	1	1	0	0	1	0	1	1	0	1	0	0	1
8		142	0	1	1	0	0	1	1	0	1	1	0	1	0	0	1	0
8		143	1	0	0	1	1	0	0	1	1	0	1	0	0	1	0	1
8		144	0	1	1	0	0	1	1	0	0	1	0	0	1	0	1	1
.																		
.																		
.																		

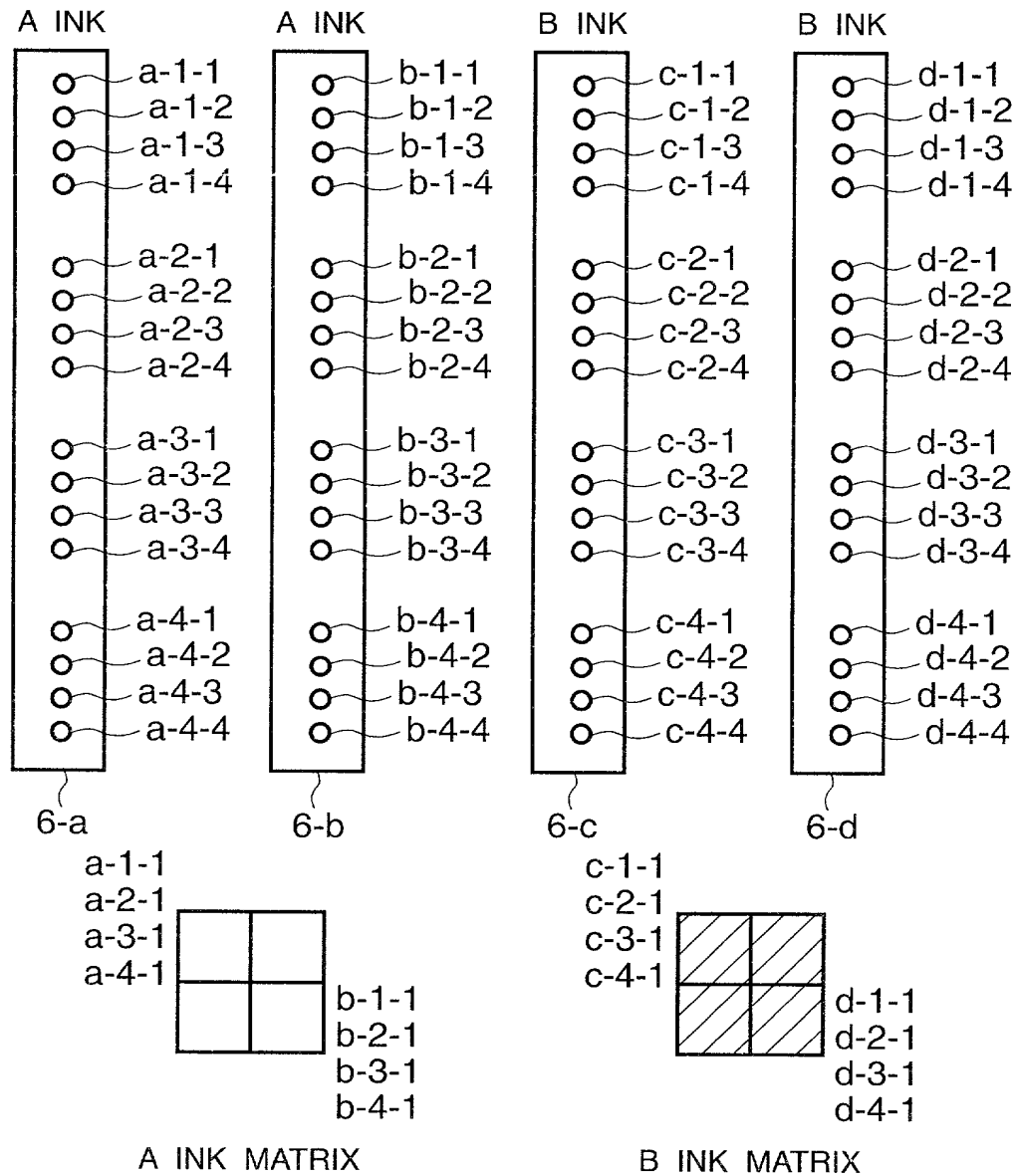


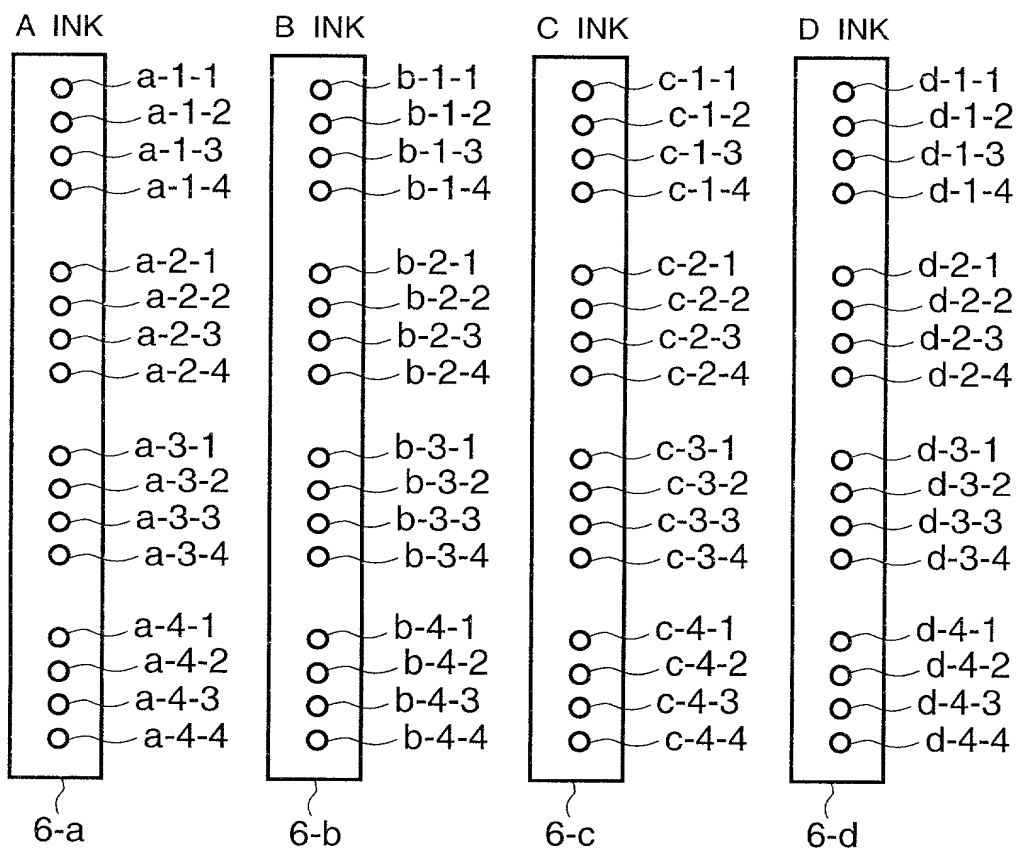
**FIG. 7**

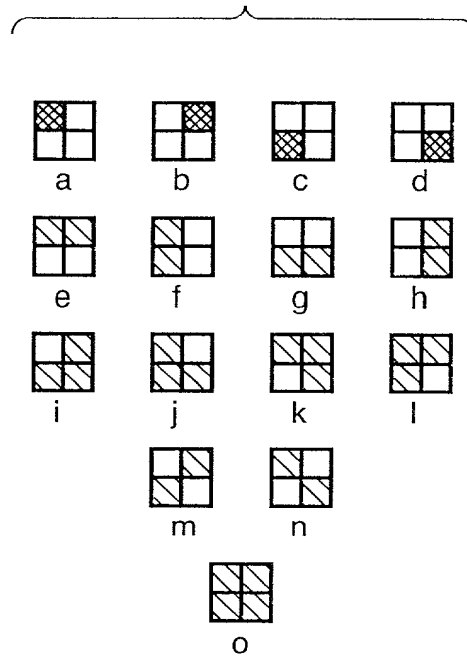


**FIG. 8**



**FIG. 9**

**FIG. 10**

**FIG. 11**

**FIG. 12**

	PATTERN 1				PATTERN 2				PATTERN 3			
GRAY LEVEL	UPPER LEFT	UPPER RIGHT	LOWER LEFT	LOWER RIGHT	UPPER LEFT	UPPER RIGHT	LOWER LEFT	LOWER RIGHT	UPPER LEFT	UPPER RIGHT	LOWER LEFT	LOWER RIGHT
0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	0	0	0	0	1	0	0	0	0	1	0
2	2	0	0	0	0	2	0	0	0	0	2	0
3	3	0	0	0	0	3	0	0	0	0	3	0
4	4	0	0	0	0	4	0	0	0	0	4	0
5	5	0	0	0	0	5	0	0	0	0	5	0
6	6	0	0	0	0	6	0	0	0	0	6	0
7	7	0	0	0	0	7	0	0	0	0	7	0
8	8	0	0	0	0	8	0	0	0	0	8	0
9	8	1	0	0	1	8	1	0	0	0	8	1
10	8	1	0	0	1	8	1	0	1	0	8	1
11	8	2	1	0	2	8	1	0	1	0	8	2
12	8	2	2	0	2	8	2	0	2	0	8	2
13	8	2	2	1	2	8	2	1	2	1	8	2
14	8	2	2	2	2	8	2	2	2	2	8	2
15	8	3	3	2	3	8	3	2	3	2	8	3
	PATTERN 4				PATTERN 5							
GRAY LEVEL	UPPER LEFT	UPPER RIGHT	LOWER LEFT	LOWER RIGHT	UPPER LEFT	UPPER RIGHT	LOWER LEFT	LOWER RIGHT	UPPER LEFT	UPPER RIGHT	LOWER LEFT	LOWER RIGHT
0	0	0	0	0					0	0	0	0
1	0	0	0	1					1	0	0	0
2	0	0	0	2					1	0	0	1
3	0	0	0	3					1	1	0	1
4	0	0	0	4					1	1	1	1
5	0	0	0	5					2	1	1	1
6	0	0	0	6					2	1	1	2
7	0	0	0	7					2	2	1	2
8	0	0	0	8					2	2	2	2
9	0	0	1	8					3	2	2	2
10	0	1	1	8					3	2	2	3
11	0	1	2	8					3	3	2	3
12	0	2	2	8					3	3	3	3
13	1	2	2	8					4	3	3	3
14	2	2	2	8					4	3	3	4
15	3	3	3	8					4	4	4	4

**FIG. 13**

GRAY SCALE VALUE	A INK	B INK	C INK	D INK
0	0	0	0	0
1	1	0	0	0
2	2	0	0	0
2	0	1	0	0
3	3	0	0	0
3	1	1	0	0
4	4	0	0	0
4	2	1	0	0
4	0	2	0	0
4	0	0	1	0
5	3	1	0	0
5	1	2	0	0
5	1	0	1	0
6	2	2	0	0
6	0	3	0	0
6	2	0	1	0
6	0	1	1	0
7	1	3	0	0
7	1	1	1	0
8	0	4	0	0
8	0	0	2	0
8	0	0	0	1

**FIG. 14**